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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,523	12/28/2001	James H. Kaufman	ARC920010089US1	1662
33360	7590	01/04/2005	EXAMINER	
MARK D. MCSWAIN IBM ALMADEN RESEARCH CENTER, IP LAW DEPT. 650 HARRY ROAD CHTA/J2B SAN JOSE, CA 95120			SCHLAIFER, JONATHAN D	
			ART UNIT	PAPER NUMBER
			2178	
DATE MAILED: 01/04/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/034,523	KAUFMAN ET AL.
	Examiner	Art Unit
	Jonathan D. Schlaifer	2178

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 28 December 2001.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-18 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 28 December 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/12/02.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

1. This action is responsive to application 10/034,523 filed on 12/28/2001, with prior art filed on 3/12/2002.
2. Claims 1-18 is pending in the case. Claims 1 and 17-18 are independent claims. Claims 1 and 17-18 have been amended in a preliminary amendment.

Information Disclosure Statement

3. The information disclosure statement filed 3/12/2002 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. More specifically, none of the non-patent literature has been considered because the record lacks copies of the art; for it to be considered, new copies of said art need to be provided.

Claim Rejections - 35 USC § 101

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-16 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The methods presented could be performed by a human being with pen and paper and lack any concrete technological basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1, 3, 8-9, 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Gabbe et al. (USPN 5,550,965—filing date 12/27/1993), hereinafter Gabbe.**
6. **Regarding independent claim 1,** Gabbe discloses a method for generating a table of contents for a document using information in said document (see col. 2, lines 1-10, discloses method for generating a table of contents), comprising the steps of: building a model of said document including an initial semantic structure (see col. 6, lines 60-67, discloses knowledge representation based modeling), detecting changes in said semantic structure spanning different scales; (see col. 8, lines 35-67, the semantic structure is filtered to establish structural features based on scaling blocks) and ordering said changes into entries in said table of contents based on scale span (in col. 10, line 55—col. 11, line. 20, the table of contents is generated).
7. **Regarding dependent claim 3,** Gabbe discloses in the Abstract in lines 5-15 that the document includes at least one of the following: a text file an audio file, a video file, a multimedia presentation.
8. **Regarding dependent claim 8,** Gabbe discloses in col. 6, lines 40-50 that the model used by the program combines audio data and video data into a single unified document representation.

9. **Regarding dependent claim 9**, Gabbe discloses in col. 7, lines 1-30 that both video and audio play primary roles in determining how data in the model is filtered, so therefore inherently they must be scaled to have a similar influence.
10. **Regarding independent claim 17**, it is a system for performing the method of claim 1 and is rejected under similar rationale.
11. **Regarding independent claim 18**, it is computer program encoded on a medium for performing the method of claim 1 and is rejected under similar rationale.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. **Claims 2, and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gabbe.**
13. **Regarding dependent claim 2**, Gabbe fails to explicitly disclose that the table of contents is a hierarchical sequential description of topic changes in said document. However, it was notoriously well known in the art at the time of the invention that tables of contents are commonly hierarchical sequential descriptions of topic changes in a document because this was a format which offers useful information about the structure and content of a document. It would have been obvious to one of ordinary skill in the art at the time of the invention to have a table of contents that was a hierarchical sequential

descriptions of topic changes in a document because this was a format which offers useful information about the structure and content of a document.

14. Regarding dependent claim 4, Gabbe fails to disclose that the audio file includes music.

However, it was notoriously well known in the art at the time of the invention that audio files may include music in order to replay musical data for a user. It would have been obvious to one of ordinary skill in the art at the time of the invention to include music in an audio file in order to replay musical data for a user.

15. Regarding dependent claim 5, Gabbe fails to disclose that the audio file includes speech. However, it was notoriously well known in the art at the time of the invention that audio files may include speech in order to replay speech data for a user. It would have been obvious to one of ordinary skill in the art at the time of the invention to include speech in an audio file in order to replay speech data for a user.

16. Regarding dependent claim 6, Gabbe fails to disclose that the text file is an audio transcript. However, it was notoriously well known in the art at the time of the invention that text files may include audio transcripts in order to successfully store speech in written form. It would have been obvious to one of ordinary skill in the art at the time of the invention to include audio transcripts in an text file in order to store speech data in written form for a user.

17. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gabbe, further in view of Sharp et al. (USPN 5,557,297—filing date 6/8/1994), hereinafter Sharp.

18. **Regarding dependent claim 7**, Gabbe fails to disclose that frames in said video file are modeled by a number representing color intensity data. However, Sharp, in col. 3, lines 15-35 discloses that frames in video file are modeled by a number representing color intensity data because this is a common and elegant way to model the frames. It would have been obvious to one of ordinary skill in the art at the time of the invention to model the frames by a number representing color intensity data because this is a common and elegant way to model the frames.
19. **Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gabbe, further in view of Ratakonda (USPN 5,956,026—filing date 12/19/1997).**
20. **Regarding dependent claim 10**, Gabbe fails to disclose that the building step comprises the further steps of: defining a vector of terms occurring in said document; and mapping said document into a vector space by projecting scaled term occurrence histogram data onto said vector of terms. However, Ratakonda, in col. 9, lines 40-60 discloses setting up a vector of terms and projecting histogram data onto it. It would have been obvious to one of ordinary skill in the art at the time of the invention to perform the steps of setting up a vector of terms and projecting histogram data as in Ratakonda in the context of Gabbe because it would aid in clustering similar images together.
21. **Regarding dependent claim 11**, Ratakonda's modification of Gabbe as in the rejection of claim 10 is oriented to images, and hence would have applied to shots in video data.
22. **Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gabbe, further in view of Ratakonda, further in view of Marrian et al. (USPN 5,113,367—filing date 1/31/1990).**

23. Regarding dependent claim 12, Gabbe and Ratakonda fail to disclose the use of weighting. However, Marrian discloses in col. 9, lines 10-30 the use of weighting in order to correct for complicating factors. It was notoriously well known in the art at the time of the invention that the use of local and global weighting allows for more fine-tuned control over complicating factors. It would have been obvious to one of ordinary skill in the art at the time of the invention to use local and global weighting in order to allow more fine-tuned control over complicating factors.

24. Regarding dependent claim 13, Gabbe and Ratakonda fail to disclose that the local weighting includes the log of term frequency plus one, and said global weighting includes term frequency entropy weighting. However, Marrian discloses in col. 9, lines 10-30, log term frequency weighting and entropy weighting to deal with noise. Further, it was notoriously well known in the art at the time of the invention that one might want to add one to the log term frequency to normalize it. It would have been obvious to one of ordinary skill in the art at the time of the invention to use log term frequency weighting and entropy weighting to deal with noise and add one to the log term frequency to normalize it.

25. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gabbe, further in view of Hutson (USPN 5,455,806—filing date 12/30/1994).

26. Regarding dependent claim 14, Gabbe fails to disclose that the mapping step includes the further step of summarizing said terms using singular-value decomposition. However, Hutson discloses that summarizing using singular-value decomposition is advantageous because it efficiently determines features of the material being analyzed. It

would have been obvious to one of ordinary skill in the art at the time of the invention to use singular-value decomposition in the manner of Hutson because it efficiently determines features of the material being analyzed.

- 27. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gabbe, further in view of Stanke (USPN 5,996,415—filing date 4/30/1997).**
- 28. Regarding dependent claim 15,** Gabbe fails to disclose that said detecting step comprises the further steps of applying successive smaller scale filter windows to said model according to said initial semantic structure to construct a map of said changes versus scale; identifying local peaks in said contour map, said peaks being points of maximum vector derivative magnitude; tracing said local peaks back to semantic structure change origin point; and measuring span of scales over which each said change exists. However, in col. 18, line 55—col. 19, line 10, Stanke describes progressive filtration involving the identification of peaks. The advantage of this filtration is a very compact representation of the information. It would have been obvious to one of ordinary skill in the art at the time of the invention to use progressive filtration with peaks in the manner of Stanke because it results in a very compact representation of the information.
- 29. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gabbe, further in view of Stanke, further in view of Honda et al. (USPN 4,850,022—filing date 10/11/1988).**
- 30. Regarding dependent claim 16,** Gabbe and Stanke fail to disclose that the filter windows are Gaussian. However, Honda discloses the use of Gaussian filter windows in

col. 10, line 35—col. 11, line 67, with the advantage that it can facilitate filtration of tree-based structures. It would have been obvious to one of ordinary skill in the art at the time of the invention to use Gaussian filter windows because they can facilitate filtration of tree-based structures.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

USPN 5,428,774 (filing date 3/16/1993)—Takahashi et al.

USPN 5,355,161 (filing date 7/28/1993)—Bird et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan D. Schlaifer whose telephone number is (571) 272-4129. The examiner can normally be reached on 8:30-5:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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JS

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PRIMARY EXAMINER